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ABSTRACT

The traditional hypothesis that extreme attitudinal positions on controversial issues are likely to produce low understanding of messages on these issues--especially when the messages represent opposing views--is tested. Data for test of the hypothesis are from two field studies, each dealing with reader attitudes and decoding of one news article on each of two issues. One survey was in St. Paul and dealt with open housing and police enforcement of laws. The other was in Monticello, Minnesota area northwest of Minneapolis and was concerned with the DDT banning issue and a controversy over construction and operation of a nuclear generating plant. Each respondent in the two studies was asked to read and state from recall his understanding of two articles which had actually appeared in one of the Twin Cities metropolitan newspapers in months preceding the studies. Position on each issue was measured according to summated responses to seven agree-disagree items selected from statements attributed to various interest groups, public officials, and spokesmen. Understanding was defined operationally as the number of accurate statements offered by a respondent about an article after reading it. The most relevant data for the narrower selective understanding hypothesis are the eta coefficients for the association between attitudes and understanding. It was found that for DDT and the two St. Paul issues, there is no consistent relationship between position and understanding. Education and open-mindedness remain the principle correlates of understanding on these two issues. (CK)

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Polarized attitudes have frequently appeared to present a barrier to accurate decoding of relevant information, especially when the information is discrepant with the person's attitudes. Apparent selective distortion has been explained in terms of premature decoding resulting from attitudes rather than message input.[1] Some sort of "jamming" action may occur when a person attempts to decode material which does not fit with his beliefs.[2]

While the selective perception principle has been acknowledged for decades, it has received considerable recent attention in various "balance" theory contexts.[3] The general assumption is that persons are motivated to decode selectively to support their current positions, especially when their attitudes are polarized.

In the related process of self-exposure, several aspects of selectivity and its balance theory basis have come under sharp criticism.[4,5] Carter, Pyzka and Guerrero argue, for example, that it may be an error to overemphasize the supportive aspects of information selectivity, since communication behavior may also serve other purposes such as value formulation. In many cases, their subjects seemed equally interested in messages attacking and supporting their views.

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A Field Test

The intent here is to examine information decoding where exposure has already occurred, to test, under field conditions, the traditional hypothesis that extreme attitudinal positions on controversial issues are likely to produce lower understanding of messages on these issues--especially when the messages represent opposing views. The data are from general population samples and represent media messages which ordinarily appear on current issues--in this case, rather routine news articles.

A corollary intent is to raise the question whether the narrower hypothesis of selective understanding and distortion based on polarization is less tenable than a broader hypothesis based on total definition of the situation, as conceptualized by symbolic interactionists such as Thomas and Mead.[6] Polarization is only one aspect of prior definition. Salience and sheer existence of elements in the definitional configuration are other possibilities. In this view, message decoding might be determined less by how polarized the receiver's position is than by what he expects in a message about an issue. A polarization hypothesis, for example, would predict that persons strongly opposed to open housing would be less likely to understand media content about this issue than more neutral persons, particularly if the content appears to favor open housing. The situation-definition hypothesis, however, would predict understanding in terms of how the person defines the issue, the actors, and their positions. If a person expects open housing proponents to advocate open occupancy laws, he is more likely to recognize such statements in media messages.

Most research on selective decoding has dealt with admittedly extreme and contrived situations. Donohew studied reaction to bogus "poll reports" providing incongruent information; the "Mr. Biggott" cartoons were administered by Kendall and Wolf to a hand-picked group of subjects, and the pro and anti-communist materials in the Levine and Murphy experiments were administered to student groups.[7,8] Each of these studies involved groups that were apparently fairly homogenous in level of education and occupation.

Socioeconomic Status

Socioeconomic status raises something of a contradiction for the narrower selective decoding hypothesis. On the one hand, more educated persons are more interested in controversial issues, learn more about them and take more firm positions.[9] On the other hand, extreme positions are hypothesized to lead to distortion in decoding. Both accurate and inaccurate decoding, of course, could occur simultaneously. In any case, status must be controlled in field tests of this hypothesis.

The Two Studies

Data for test of the hypothesis are from two field studies, each dealing with reader attitudes and decoding of one news article on each of two issues. One survey was in St. Paul and dealt with open housing and police enforcement of laws. The other was in the Monticello, Minnesota area northwest of Minneapolis and was concerned with the DDT banning issue and a controversy over construction and operation of a nuclear generating plant.

The St. Paul sample included 115 adults interviewed in the Summit-

University area of that city, which contains its highest proportion of non-white population.[10] The news articles on open housing referred to a previous house-to-house canvass which purported to show considerable local fear of nondiscriminatory renting. The police controversy surrounded reports of an official investigation into the way police handled a civil disturbance with racial overtones.

The Monticello sample included 435 adults in a 20-mile-wide area stretching 50 miles along the Mississippi River immediately northwest of Minneapolis, with Monticello in the center. Both the DDT and the nuclear power plant had received considerable publicity in months preceding the study.[11] Some articles quoted findings of DDT residue in fish and other wildlife. Others reported more pro-DDT positions of agriculturists and chemists. The nuclear power issue concerned a generating plant which was under construction and was scheduled for operation a year later. The principle issue was the level of radiation emission under which the plant would operate and whether the state or federal government should specify those levels. Both surveys were conducted between early April and late June, 1969.

Measures of Attitudes and Message Decoding

Each respondent in the two studies was asked to read and state from recall his understanding of two articles which had actually appeared in one of the Twin Cities metropolitan newspapers in months preceding the studies. Two articles on each issue were used in the St. Paul study and 15 on each

issue were used in the Monticello study. Each individual article was presented to about 57-60 respondents in the St. Paul study and to about 27-30 in the Monticello survey.

Position on each issue was measured according to summated responses to seven agree-disagree items selected from statements attributed to various interest groups, public officials, and spokesmen. News articles were administered near the end of the interview. Each respondent was asked to read a particular article as he would any news article. When he finished, the interviewer took the article back and asked "What, as you recall, does this article say?" Two probes were used for each article. Responses were analyzed for the number of different content statements for each article and these statements were compared with article content to determine their accuracy. Understanding was defined operationally as the number of accurate statements offered by a respondent about an article after reading it.

Understanding and Related Factors

Understanding in general was more highly correlated with education and open-mindedness in the St. Paul study than in the Monticello study.[12] (Table 1) Powerlessness was a rather weak correlate of understanding in both studies.

The most relevant data for the narrower selective understanding hypothesis are the eta coefficients for the association between attitudes and understanding. All are nonsignificant statistically except for the nuclear power plant issue. In this one case, a curvilinear relationship appears but is directly contrary to the selectivity hypothesis. Instead of understanding less, persons with extreme positions tend to show higher understanding than persons

with more neutral attitudes. (Figure 1) Furthermore, the basic curvilinear relationship between position and understanding remains with education controlled. (Table 2) In this case, then, understanding rises both with education and with extremity of the stand which the person takes.

Rather than assume that extremity and intensity are equivalent, a measure of personal concern was used in the Monticello study. Persons who disagreed with the statement "It makes little difference to me personally whether electricity is produced at Monticello with nuclear energy or not" were treated as more concerned. The three-way effect of position, education, and concern is apparent. (Table 3) Here, it appears that the curvilinearity between position and understanding is largely confined to less concerned persons. For those expressing concern, there is little or no relationship between polarization and understanding.

For DDT and the two St. Paul issues, there is no consistent relationship between position and understanding. Education and open-mindedness (which in both studies are positivily correlated with each other) remain the principle correlates of understanding on these two issues.

Understanding and Article Position

The findings above deal with understanding for all persons regardless whether news article content was discrepant with their positions or not. To control for the content factor, articles were scored according to the proportion of statements about positions taken by various individual and interest groups. This made it possible to compare understanding, for example, of articles

with a high proportion of anti-DDT statements by persons who are more favorable toward DDT. However, for both issues in the Monticello study, there was no difference in understanding of articles according to proportion of "pro" and "con" statements in the articles, with or without education and the person's own position held constant. In the St. Paul study, such a comparison was not feasible, since only two articles were used on each issue, and treatment of the issues varied too little for a test of article position effects on understanding.

Inaccurate Statements

This analysis has dealt primarily with the number of accurate statements made by respondents; one might expect, however, that if message distortion occurs it might be apparent in the inaccurate statements. On both issues, however, nearly two-thirds of the respondents made no inaccurate statements at all. The tendency for the majority was to either recall content accurately or not at all. The inaccurate responses that did occur were not associated with position of the person on either issue.

Type of Content Recalled

While no distortion was apparent as a result of attitudes, one might nevertheless expect selectivity in type of content recalled, particularly in recall of supportive information. Respondents' statements were analyzed for presence of accurate and inaccurate statements that mentioned potential dangers from the nuclear plant or DDT, solutions to the issues, and public

affairs aspects of the issues. Again, contrary to the supportive aspect of the selectivity hypothesis, there was no tendency for more anti-nuclear plant persons to perceive "danger" from nuclear plant news articles. There was, instead, a slight tendency for persons at either extreme to produce more accurate statements about "danger," although the differences were not significant.

There was, however, some apparent selectivity operating on the "public affairs" issues. The most prominent public affairs issue in these articles was the federal'state jurisdiction question, with nuclear plant opposition groups favoring state control. Accurate statements about such public affairs aspects of the nuclear plant issue were made by 38.6 percent of the more "anti" nuclear plant respondents and by 25 percent of the more "pro" nuclear plant group. The overall difference is significant at the .01 level.

Situation Definition and Selectivity

The alternative to the narrower polarization hypothesis, mentioned earlier, is the broader hypothesis that predicts selection of content elements that fit one's prior definitional configuration. Such a definition, even though homogeneous, may or may not include polarization.[13] In the absence of severe threat to a person's self-esteem, one might at least expect selection to be based on what a person expects in a media situation, regardless of his need for supportive information.

If the broader definitional hypothesis holds, we would expect persons who are aware of certain aspects of an issue to be more likely to decode elements

relating to those aspects from relevant media content. There is mild support for this hypothesis from a further analysis of the nuclear plant data. Respondents were asked, before reading news articles, what they knew about the issue. These responses were examined for statements about "danger" (such as radioactive waste dumping into the river); about "public affairs" issues (such as state vs. federal control); and about "solutions" (such as the proposal to prevent operation). Recall responses from article reading were examined independently for the same type of content.

Although differences are slight, there is a consistent tendency for persons previously aware of an issue to be more likely to recognize that issue in the news article which they subsequently read. (Table 4) The largest observed difference is on "solution" statements, which were recalled from articles by fewer than a third of the persons who did not mention solutions previous to reading the articles, and by half of those who did mention solutions earlier. These differences were largely independent of education and attitudinal position.

Selectivity and Communication

Much as recent investigations have cast some doubts on the generality of the narrower "selective avoidance" hypothesis of self exposure, these data suggest that selective misunderstanding after exposure, based on polarization, may be a too limited view of the communication process.

It may be well, therefore, to reconsider some of the earlier studies that appear to demonstrate selective misunderstanding. The well-known Kendall and Wolf studies (of reaction to the Mr. Biggott cartoons) show

more misunderstanding among persons identified as more highly prejudiced against minority persons. However, the Kendall-Wolf report indicates that many of these individuals recognized what the cartoonist was trying to do (ridicule persons with prejudices) but then became so intent upon disidentifying with Mr. Biggott (the caricatured cartoon character who expressed discriminatory views) that full understanding was "sidetracked," to use the investigators' terms.[14] The Levine and Murphy experiments on learning and forgetting deal entirely with persons who have strong beliefs; there are no relatively neutral or middle-ground subjects in the study, with the possibility remaining that learning among such persons would have been lower than among persons at either of the two extremes.[15] Donohew in his pilot study presented subjects with information which was contradictory in that it presented information about the public opinion <u>situation</u>, which, if accepted would presumably be threatening to the individual. The measure of decoding was the subject's ability to fill in blanks where words had been taken out through an adaptation of the "Cloze" procedure. What is not clear is whether the more politically active subjects in the Donohew study possessed prior factual information about the popular support of their candidate that provided them with a rather concrete and rational reason for misunderstanding the alleged poll report.[16] Similarly, the Levine and Murphy article does not indicate the prior state of knowledge and beliefs of the pro- and anti-communist subjects on topics relevant to the messages used. That is, the two messages used varied not only in direction but also in focus. The anti-Soviet Union selection emphasized general characteristics of the total Soviet economic and political system; the pro-Soviet Union selection dealt more with

specific aspects of Soviet life. Thus, the possibility remains that the demonstrated differences are a function of prior definition and knowledge. Levine and Murphy, it should be added, did not attribute their differences to polarization differences alone, but referred instead to the broad "frame of reference" which the individual poss sses at the time of perception.[17]

Forms of Selective Decoding

As others have pointed out, there may be more than supportive motives operating in information processing. A desire to formulate a point of view may be a more significant motive in some situations.[18] There are additional motives which should be considered, such as the wish to know what opposing groups are saying so as better to answer their arguments.

Selective decoding may take different forms, including:

1. Differential recognition of cues or assertions;
2. Differential avoidance of cues or assertions;
3. Differential distortion of information, and
4. Perception of acceptance or rejection of stated positions.

In data reported here there was some measurable tendency for (1) but very little for (2) or (3) to occur. The studies lacked measures of agreement or disagreement with article content; thus whether type (4) decoding occurred was not taken into account.

Differential recognition of cues or assertions based on expectations may reflect one of the more common forms of selective decoding of mass media messages in a social controversy. It is a short step from the assimilation-contrast model of Sherif, et al. to the proposition that persons

exposed to information about (or from) an opposing group will tend to differentially recognize the most extreme positions or attributes of that group.[19]

Intensely anti-pollution organizations do not necessarily fail to recognize statements from industry; rather, they seem to recognize and recall best of all those statements from industry leaders that appear most pro-industry. In fact, if an industrial executive today were to make a public statement referring to "economic rights cver ecology" he might well provide a rallying slogan for anti-pollution groups. Such colorful historical incidents as the "Rum, Romanism, and Rebellion" assertion of the Cleveland campaign, and the current use by left-wing groups of the "effete corps of impudent snobs" quote indicate the readiness of groups to remember extreme opposition statements only too well.[20]

It is suggested here that further research on reception of mass media information should go beyond the polarization hypothesis and concentrate more on expectations, based on a more adequate conceptualization of definition of the situation.

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3. See, for example, Leon Festinger, A Theory of Cognitive Dissonance, Row, Peterson, New York, 1957; Bernard Berelson and Gary A. Steiner, Human Behavior: An Inventory of Scientific Findings, Harcourt, Brace, and World, Inc., New York, 1964, p. 536; Nathan Maccoby and Eleanor E. Maccoby, "Homeostatic Theory in Attitude Change," Public Opinion Quarterly, 1961, pp. 538-545.

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6. See W. I. Thomas and Florian Znaniecki, The Polish Peasant in Europe and America, New York, Alfred A. Knopf, 1927; George H. Mead, On Social Psychology: Selected Papers, The University of Chicago Press, 1964.

7. Donohew, op. cit.

8. Jerome M. Levine and Gardner Murphy, "The Learning and Forgetting of Controversial Material," Journal of Abnormal and Social Psychology, Vol. 38, 1943, pp. 507-517.

9. Berelson and Steiner, op. cit., P. 544.

10. The interviewing in the St. Paul study was done largely by members of a graduate seminar in mass communication research in the School of Journalism and Mass Communication.

11. A more detailed discussion of these issues is contained in another report, P.J. Tichenor, C.N. Olien and G.A. Donohue, "Attitudes and Learning About Two Environmental Issues," Symposium on Mass Communication Research and Environmental Decision-Making, Madison, Wisconsin, Jan. 22-23, 1970.

12. The "open-mindedness" scale is based on 12 items of the Rokeach dogmatism scale which could be adapted directly to either the DDT or nuclear power plant issue. Half of the items were keyed to one issue and half to the other. For example, one Rokeach item was recon-

structed to read: "There is really only one right answer to the DDT question," Another: "The nuclear generating plant controversy has one simple explanation." Milton Rokeach, The Open and Closed Mind, New York Basic Books, 1960.

13. R.F. Carter, "Stereotyping as a Process," Public Opinion Quarterly, Vol. 26, 1962, pp. 77-91.

14. Kendall and Wolf, op. cit.

15. Levine and Murphy, op. cit.

16. Donohew, op. cit.

17. Levine and Murphy, op. cit.

18. Carter, Pyzka and Guerrero, op. cit.

19. Carl I. Hovland, O.J. Harvey, and Muzafer Sherif, "Assimilation and Contrast Effects in Reactions to Communication and Attitude Change," Journal of Abnormal and Social Psychology, Vol. 55, 1957, pp. 244-252.

20. John Osgood Field and Ronald E. Anderson, "Ideology in the Public's Conceptualization of the 1964 Election," Public Opinion Quarterly, Vol. 33, Fall, 1969, pp. 380-398.

Table 1

Understanding of News Articles on 4 Issues and Associated Factors

	Correlation with article understanding			
	St. Paul Study (N:115)		Monticello Study (N:435)	
	Housing	Police	DDT	Power Plant
Education	.447***	.484***	.187**	.255**
Open-mindedness	.461***	.334***	.149**	.222**
Powerlessness	n.s.	n.s.	-.158**	-.096*
Prior Knowledge	--	--	.108*	.278**
Attitudes (eta)	n.s.	n.s.	n.s.	n.s.

*** = p< .001
** = p< .01
* = p< .05

Figure 1

Understanding of News Articles on Nuclear Power Plant Issue and Position on Issue

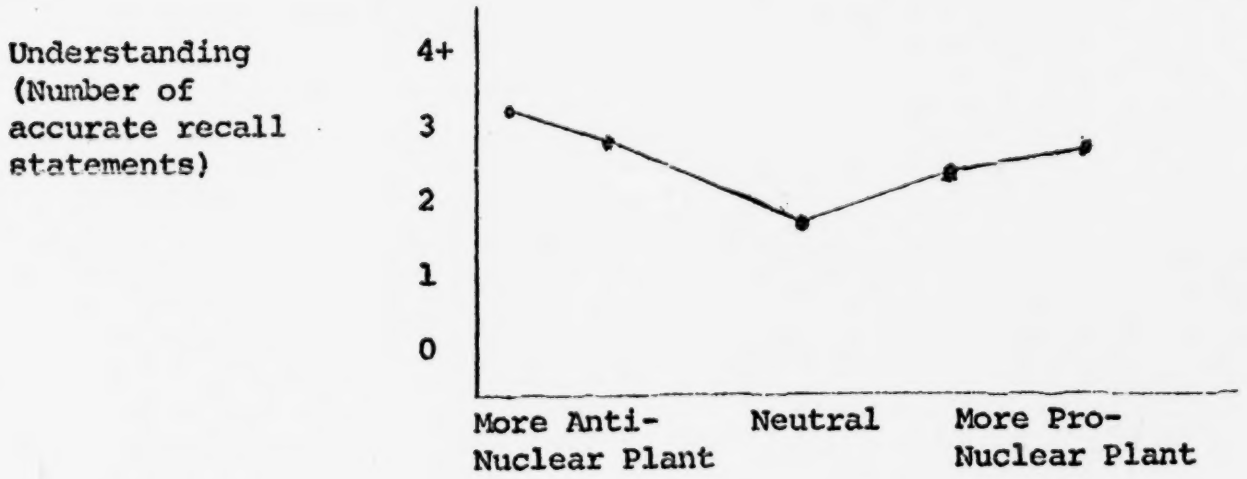

Table 2

Understanding of Nuclear Plant Articles According to Education and Person's Position on the Issue*

	Low Education	Medium Education	High Education
More Anti-Nuclear Plant	2.25 (N:33)	2.92 (N:51)	3.39 (N:56)
Moderate	1.51 (N:43)	2.30 (N:34)	2.58 (N:29)
More Pro-Nuclear Plant	1.94 (N:64)	2.54 (N:60)	3.09 (N:55)

*The value in each cell refers to the average number of accurate statements offered after reading the article about the nuclear power plant.

Table 3

Understanding of Nuclear Plant Articles According to Education, Concern Over the Issue, and Person's Position on the Issue

Position	Low Education		Medium Education		High Education	
	Not Concerned	Concerned*	Not Concerned	Concerned	Not Concerned	Concerned
More Anti-Nuclear Plant	1.8 (19)	2.8 (14)	2.8 (17)	3.1 (34)	3.2 (17)	3.5 (39)
More Neutral	1.2 (33)	2.6 (10)	1.8 (16)	2.6 (18)	2.2 (16)	3.0 (13)
More Pro Nuclear Plant	1.9 (41)	2.2 (23)	2.5 (34)	2.7 (26)	3.0 (34)	3.2 (21)

*"Concerned" persons are those who disagreed with the statement "It makes little difference to me personally whether electricity is produced at Monticello with nuclear energy or not."

Table 4

Mention of Issues Prior to Reading and Recognition of Same Issues in Articles about Nuclear Power Plant

	Danger Issue		Public Affairs Issue		Solutions	
	No Prior Mention	Prior Mention	No Prior Mention	Prior Mention	No Prior Mention	Prior Mention
% Recognizing Issue in Article	(N:273) 58.9%	(N:153) 66.01%	(N:269) 17.8%	(N:162) 25.3%	(N:404) 32.4%	(N:22) 50%
	p .05, .10, one tail		p .05, one tail		p .05, one tail	